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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,291	03/04/2002	Leonel Ernesto Enriquez	50136SE1764TL	6622

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ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A.
1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE
P.O. BOX 3791
ORLANDO, FL 32802-3791

EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,291

Applicant(s)

ENRIQUEZ ET AL.

Examiner

Walter F Briney III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takato et al. (US Patent 4,631,366) in view of McAndrews (US Patent 5,160,851).**

Claim 15 is limited to a *circuit arrangement for limiting the DC voltage applied to a tip and ring amplifiers of a subscriber line interface circuit (SLIC) (figure 6, elements A₀, A₁), each having a first polarity input (figure 6, element A₀/A₁, plus terminal) thereof coupled to a first current flow path to which a DC input voltage is coupled. Takato discloses a first current source (figure 6, element Tr₀) that is operative to supply, to a second polarity input node of said tip amplifier (figure 6, element A₀, minus terminal), a first current derived in accordance with that flowing through said first current flow path (figure 6, path from Ra₀ through Ra₁). Takato discloses a second current source (figure 6, element Tr₁) that is operative to supply, to a second polarity input node of said ring amplifier (figure 6, element A₁, minus terminal), a second current derived in accordance with that flowing through said first current flow path (figure 6, path from Ra₀ through Ra₁). While it is noted that the rejection in the previous Final Office action filed 27 July 2004 equates element (IV) of figures 6 and 7 to the voltage regulator recited in this claim, it is clear that element (IV) is incapable of regulating the DC input itself, as the*

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currently amended claim recites. Furthermore, Takato fails to disclose any details relating to creating or generating the voltage $-V_{BB}$. Therefore, Takato anticipates all limitations of the claim with the exception of a *voltage regulator that regulates said DC input from varying above a regulated voltage V_{reg} .*

McAndrews teaches a rechargeable back-up battery system including a number of battery cells having float voltage exceeding maximum load voltage. See Abstract. In general, the system of McAndrews depicted in figure 1 provides DC power to a general central office load (2). See column 3, lines 52-62. This load corresponds directly to the battery feed circuitry disclosed by Takato. As mentioned in the previous paragraph, Takato does not disclose the origin of supply voltage $-V_{BB}$. It follows that one of ordinary skill in the art would be inherently motivated to combine a prior art teaching of central office power supply. As such, the teachings of McAndrews provide the necessary supply voltage, and in addition, provide battery backup in the event of loss of AC power, the battery power being regulated to a nominal value by voltage converter (8c) of figure 1. See column 4, lines 15-44, especially lines 39-44.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the rechargeable back-up battery system as taught by McAndrews with the line driving circuitry of Takato because Takato fails to teach how to generate supply voltage $-V_{BB}$ and because the system of McAndrews provides battery backup in the event that AC power is lost.

Claim 16 is limited to *the circuit arrangement according to claim 15*, as covered by Takato in view of McAndrews. Takato discloses *first and second low-pass filters*

(figure 6, element Rs_0 , C_0 and Rs_1 , C_1) *respectively coupled with said first and second current sources* (figure 6, elements Tr_0 and Tr_1) *and being operative to pass DC supply energy* (i.e. DC blocking capacitors prevent DC from shunting to ground) (column 6, lines 40-41) *and prevent noise* (i.e. differential-mode voltage introduced into battery – V_{BB}) *from being introduced into the voice paths of said tip and ring amplifiers* (column 6, line 26-column 7, line 15). Therefore, Takato in view of McAndrews makes obvious all limitations of the claim.

Claim 17 is limited to *the circuit arrangement according to claim 15*, as covered by Takato in view of McAndrews. Takato discloses a *voltage divider* (figure 6, elements Ra_0 , Rb_0 , Rb_1 , Ra_1) *to an input terminal of which said DC input voltage is applied* (figure 6, element $-V_{BB}$). Takato also discloses a *voltage dividing node* (figure 6, element M_2) *of which said first polarity inputs of said tip and ring amplifiers are coupled* (figure 6, elements A_0/A_1 , plus terminals). As seen in figure 1 of McAndrews, the voltage converter (i.e. *regulator*) is connected to the input of the load in the same fashion as the input voltage $-V_{BB}$ in figures 6 and 7 of Takato (i.e. *is coupled to said input terminal of said voltage divider*). Therefore, Takato in view of McAndrews makes obvious all limitations of the claim.

Claim 18 is limited to *the circuit arrangement according to claim 17*, as covered by Takato in view of McAndrews. Takato discloses *first and second current sources* (figure 6, elements Tr_0 and Tr_1) that produce a *first and second current* and are controlled by amplifiers A_0 and A_1 , the amplifiers are controlled by currents between M_2

(i.e. *voltage dividing node*), Ground (i.e. *reference node*), and $-V_{BB}$. Therefore, Takato in view of McAndrews makes obvious all limitations of the claim.

Claim 19 is limited to *the circuit arrangement according to claim 15*, as covered by Takato in view of McAndrews. Takato discloses a *voltage divider* (figure 6, elements R_{a0} , R_{b0} , R_{b1} , R_{a1}) to an input terminal of which said DC input voltage is applied (figure 6, element $-V_{BB}$). Takato also discloses a *voltage dividing node* (figure 6, element M_2) of which said first polarity inputs of said tip and ring amplifiers are coupled (figure 6, elements A_0/A_1 , plus terminals). As seen in figure 1 of McAndrews, the voltage converter (i.e. *regulator*) is connected to the input of the load in the same fashion as the input voltage $-V_{BB}$ in figures 6 and 7 of Takato, and is connected to the voltage dividing node through resistors R_{a1} (i.e. *is coupled to said voltage dividing node of said voltage divider*). Therefore, Takato in view of McAndrews makes obvious all limitations of the claim.

Claim 20 is essentially the same as claim 18, as covered by Takato in view of McAndrews, and is rejected for the same reasons.

Response to Arguments

2. Applicant's arguments with respect to claims 15-20, filed 22 December 2004, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SINH TRAN
SUPERVISORY PATENT EXAMINER

WFB
3/28/05